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Form C-122
Revised 9-1-65
C-122 file

NE - MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT ONE POINT BACK PRESSURE TEST FOR GAS WELL

RECEIVED

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 1-23-79			
Company Yates Petroleum Corp. ✓				Connection Transwestern Pipeline Company					
Pool DHC II-3				Formation Strawn & Cisco				Unit NM 660	
Completion Date 1-18-79		Total Depth 8200' KB		Plug Back TD 7589' KB		Elevation 3708' KB		Farm or Lease Name Federal "GR" Com	
Csg. Size 4-1/2"	Wt. 11.6	d 4.000	Set At 7621'	Perforations: From 6214 To 7408			Well No. 1		
Tbg. Size 2-3/8"	Wt. 4.7	d 1.995	Set At 6184	Perforations: From To			Unit Sec. Twp. Rye. E 25 17S 24E		
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Multiple commingled						Packer Set At 6184' KB		County Eddy	
Producing Thru Tubing		Reservoir Temp. °F 124 @ 6630		Mean Annual Temp. °F 62		Baro. Press. - P _a 13.2		State New Mexico	
L 6630	H 6630	G _g 0.700	% CO ₂ 0.26	% N ₂ 1.57	% H ₂ S Nil	Prover	Meter Run 2"	Taps Flange	

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.		Temp. °F
SI							1730	35			Months
1.	2.067	x	0.750	260	4	35	1665	45			1 hour
2.				261	19	40	1579	53			1 hour
3.				262	38	43	1506	60			1 hour
4.				263	57	45	1444	66			1 hour
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	2.709	33.06	273.2	1.025	1.216	1.0353	116
2	2.709	72.05	274.2	1.020	1.216	1.0342	250
3	2.709	101.89	275.2	1.017	1.216	1.0336	353
4	2.709	124.79	276.2	1.015	1.216	1.0331	431
5							

NO.	P _t	Temp. °R	T _t	Z	Gas Liquid Hydrocarbon Ratio	A.P.I. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature
1	0.408	495	1.306	.933	122.55 Mcl/bbl.	52.2 Deg.	0.676	XXXXXXX	669 P.S.I.A.	379 R
2	0.410	500	1.319	.935				0.700	668 P.S.I.A.	377 R
3	0.411	503	1.327	.936						
4	0.413	505	1.332	.937						
5										

NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²
1			4325	393
2			3851	867
3			3478	1240
4			3178	1540
5				

P_c 2172.2 P_c² 4718

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 3.0636$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.9053$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1252$

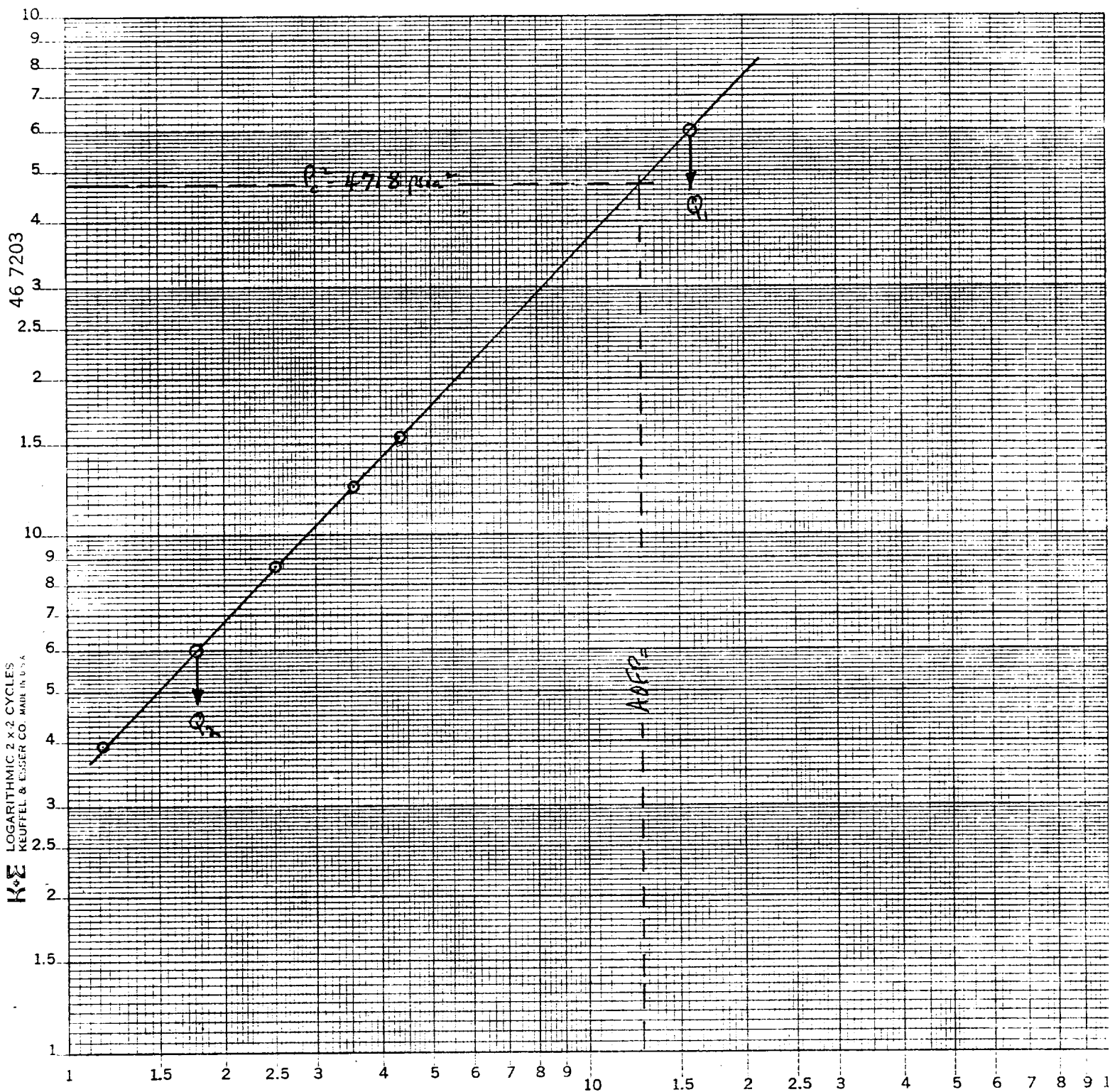
Absolute Open Flow 1252 Mcfd @ 15.025

Angle of Slope @ 48½ deg

Slope, n 0.9526

Remarks: Freezing during 1st flow. All pressures by dead weight tester. Calculations worksheet C-122D attached.

Approved By Commission:	Conducted By: Don Weaver	Calculated By: Eddie Mahfood	Checked By:
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WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)

C-122D
Adopted 9-1-65

COMPANY Nalco Petroleum Corp LEASE Federal 912 Com WELL NO. 1 DATE 1-23-79

LOCATION: Unit E Section 25 Township 17S Range 24E

L 6630 H 6630 L/H 1.000 G 0.700 % CO₂ 0.26 % N₂ 1.57 % H₂S N/I
 6180/300 = 24612.3
 446/1600 = 2136.0
 d 2.1883 F_r .013115 GH 4641
 4432/14784 = 317453
 P_{CT} 668 T_{CT} 377
 TABLE IX B X

LINE	51	1	2	3	4	51	1	2	3	4
1 Q _m	—	0.116	0.250	0.353	0.431	—	—	—	—	—
2 T _w (W.H. °R)	495	505	513	520	526	—	—	—	—	—
3 T _s (B.H. °R)	584	583	583	582	582	—	—	—	—	—
4 T = ($\frac{T_w}{2} + \frac{T_s}{2}$)	539.5	544	548	551	554	—	—	—	—	—
5 Z (Est.)	.933	.946	.960	0.970	0.981	—	—	—	—	—
6 T _Z	395.45	405.82	416.48	424.27	432.69	—	—	—	—	—
7 GH/T _Z	11.736	11.436	11.143	10.939	10.726	—	—	—	—	—
8 e ^s (Table XIV)	1.5529	1.5355	1.5187	1.5071	1.4952	—	—	—	—	—
9 1-e ^s (Table XIV)	—	0.3487	0.3416	0.3365	0.3312	—	—	—	—	—
10 P _i	1743.2	1678.2	1592.2	1519.2	1457.2	—	—	—	—	—
11 P _i 2/1000	3038.7	2816.86	2536.10	2308.0	2123.4	—	—	—	—	—
12 F _i (Table X) $\frac{10375}{1000}$	144010	142885	141988	141020	140224	—	—	—	—	—
3 F _C = F _i T _Z	—	5.3223	5.462	5.564	5.6945	—	—	—	—	—
14 F _C Q _m	—	0.617	1.3655	1.964	2.11457	—	—	—	—	—
15 L/H (F _C Q _m) ²	—	0.381	1.865	3.858	5.98	—	—	—	—	—
16 F _w = L/H (F _C Q _m) ² (1-e ^s)	—	0.13	0.64	1.3	2.0	—	—	—	—	—
17 P _w ² = P _i ² + F _w	—	2816.49	2536.74	2309.3	2125.4	—	—	—	—	—
18 P _s ² = e ^s P _w ²	4718.9	4324.72	3851.0	3480.8	3177.9	—	—	—	—	—
19 P _s	2172.3	2079.6	1962.4	1865.6	1782.7	—	—	—	—	—
20 P = ($\frac{P_i + P_s}{2}$)	1957.7	1878.9	1777.3	1692.4	1619.9	—	—	—	—	—
21 P _i = (P/P _{CT})	2.931	2.813	2.661	2.534	2.425	—	—	—	—	—
22 T _i = (T/T _{CT})	1.4131	1.4443	1.454	1.462	1.469	—	—	—	—	—
23 Z (Table XI)	.933	.946	.960	0.971	0.981	—	—	—	—	—